Abstract

An embodiment of a method of selecting a heuristic class for data placement in a distributed storage system begins by forming a general integer program which models the data placement and forming a specific integer program which models a heuristic class for the data placement. The general and specific integer programs each comprising an objective of minimizing a replication cost. The method continues with solving the general integer program which provides a general lower bound for the replication cost and solving the specific integer program which provides a specific lower bound for the replication cost. The method concludes with selecting the heuristic class if a difference between the general lower bound and the specific lower bound is within an allowable amount.